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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,827	06/30/2000	Peter Schwarz	548.0011USU	2208

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EXAMINER

STOCK JR, GORDON J

ART UNIT	PAPER NUMBER
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2877

MAIL DATE	DELIVERY MODE
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10/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/607,827

Applicant(s)

SCHWARZ ET AL.

Examiner

Gordon J. Stock

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39, 45-57 and 60-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39, 45-48, 51-57, 60-70 is/are rejected.
- 7) ☒ Claim(s) 49, 50, 71 and 72 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The Amendment received on April 20, 2007 has been entered into the record.

Claim Objections

2. **Claim 39** is objected to for the following: on line 18 'between said light diode said at least one photo sensor' should read –between said light diode and said at least one photo sensor-.
Correction required.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. **Claims 39, 45-48, 51, 54, 56, 60-64, 66, 68-70** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tannenbaum et al. (5,155,558)**.

As for **claims 39 and 56**, Tannenbaum discloses in a method and apparatus for analyzing the appearance of a surface the following: at least one optically system having a light source, a white light source comprising a halogen bulb, emitting an emitted light at the surface so that said emitted light hits the surface at a predetermined angle of incidence, said emitted light having a light intensity over the entire visible spectral range, halogen light (Fig. 1: 10, 12; col. 6, lines 15-25); a lens parallelizing said emitted light before said emitted light hits the surface (Fig. 1: 18); at least one photosensor receiving reflected light from the surface at a predetermined angle of reflection wherein said predetermined angle of incidence and said predetermined angle of reflection are mirror symmetrical to each other with respect to the surface (col. 6, lines 30-35; Fig. 1: 26); filter means for adapting a spectrum such that an aggregate spectrum of said light diode, said at least one photosensor, and said filter corresponds to an aggregate of daylight

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spectrum and eye sensitivity (col. 5, lines 34-67); a lens that focuses said reflected light into a light beam, wherein, said light beam impinges on said at least one photo sensor (Fig. 1: 28); said photosensor generating a signal based on said reflected light and an evaluation means for determining the gloss, haze, and distinctness of image of the surface based on said signal, said signal corresponding to portions of said reflected light (col. 7, lines 60-67; col. 8, lines 1-43).

As for a diode having intensity over the entire visible range, Tannenbaum is silent. However, a diode having intensity over the entire visible range is a white light source. And halogen sources are also white light sources. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to substitute the three halogen sources with three white diodes, for they are both functionally equivalent as white light sources. In regards to the filter means being in a light path between said light diode and said at least one photosensor, Tannenbaum does not explicitly states this; however, he teaches that a bandpass filter is an equivalent structure to his signal filter (col. 5, lines 55-60). Therefore, because these two were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the signal filtering means for a bandpass filter in front of the imaging sensor.

In **claim 39**, as for 'for focusing said reflected light into a light beam' it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

As for **claims 45, 54, 60**, Tannenbaum discloses everything as above (see **claims 39 and 56**). In addition, Tannenbaum discloses a plurality of photosensors, photosensitive elements

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such as pixels, arranged adjacent to one another (col. 21, lines 4-6), a plurality of detectors (col. 6, lines 40-45).

As for **claims 46-48, 51, 61-63**, Tannenbaum discloses everything as above (see **claims 39 and 56**). In addition, Tannenbaum discloses said emitted light comprises a light pattern that may comprise at least one light/dark edge or may consist of a grid form or circular form or a light strip (Figs. 3a-3f).

As for **claim 64**, Tannenbaum discloses everything as above (see **claim 56**). In addition, he discloses causing relative movement between said light source and said photosensor and the surface (Fig. 1: 30)

As for **claims 66 and 68**, Tannenbaum discloses everything as above (see **claims 39 and 56**). Tannenbaum does not explicitly state that the angles of the light sources do not vary over time. However, he suggests it, for he states that the predetermined angles are fixed (col. 6, lines 24-25). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the predetermined angle not vary in time in order to guarantee accurate surface measurements.

As for **claims 69 and 70**, Tannenbaum discloses everything as above (see **claims 39 and 56**). In addition, Tannenbaum discloses a scatter disk arrangement positioned with respect to said light source so that said emitted light homogeneously illuminates the surface, a diffusing sphere with pinhole (Fig. 1: 14 and 16).

5. **Claim 52** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tannenbaum et al. (5,155,558)** in view of **Steenhoek (4,917,495)**-previously cited.

As for **claim 52**, Tannenbaum discloses everything as above (see **claim 39**). He is silent concerning a temperature device. However, Steenhoek in a method for characterization a surface teaches a temperature device (col. 7, lines 40-50). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have a temperature device in order to determine if the instrument needs recalibration due to temperature fluctuations. As for 'for determining a temperature...can be made' it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

6. **Claim 53** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tannenbaum et al. (5,155,558)** in view of **Lex (5,596,412)**—previously cited.

As to **claim 53**, Tannenbaum discloses everything as above (see **claim 39**). However, Steenhoek does not teach a measurement wheel positioned on surface. Lex in a device for physiological assessment of reflective surfaces teaches using a measurement wheel coupled to a rotating angle output device in order to determine the exact geometric relationship of the measuring points on the surface (col. 2, lines 55-64; col. 6, lines 55-67; col. 7, lines 1-30). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the system comprise a measurement wheel coupled to a rotating angle output device in order to determine the exact geometric relationship of the measuring points on the surface being studied.

As for 'to maintain a constant ... relative to the surface,' it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not

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differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

7. **Claims 55 and 57** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tannenbaum et al. (5,155,558)** in view of the applicant's disclosure of prior art.

As for **claims 55 and 57**, Tannenbaum discloses everything as above (see **claim 39 and 56**). As for the measuring cycle, Tannenbaum is silent concerning the measurement cycle being less than .2 seconds. However, the applicant's disclosure teaches prior art of a measurement cycle taking less than .2 seconds (page 5, line 27). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the measurement cycle be less than .2 seconds, for measurement cycles with light emitting diodes are typically less than .2 seconds in order to shorten the time it takes to measure samples.

8. **Claims 65 and 67** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tannenbaum et al. (5,155,558)** in view of **Chen et al. (6,163,038)**—previously cited.

As for **claims 65 and 67**, Tannenbaum discloses everything as above (see **claims 39 and 56**). In addition, Tannenbaum discloses said light source comprising a light emitting member, a halogen bulb, having a precisely defined position (col. 6, lines 20-25; Fig. 1: 12). However, as for a light diode comprising a light emitting member with a precisely defined position that does not vary over time, he is silent. However, Chen in a white led teaches that light emitting members are at a precise position to ensure white light emission through proper overlap of emitting layers (Fig. 8, 64-65; col. 5, lines 30-55). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the white led have a light

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emitting member at a precise location within the light diode that does not vary in time in order to have consistent overlap of wavelengths for constant white light emission.

Allowable Subject Matter

9. **Claims 49, 50, 71, 72** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to **claim 49**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a device for making quantified determinations the at least one optical system comprises three optical systems, in combination with the rest of the limitations of **claims 49, 50, and 71**.

As to **claim 72**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for making quantified determinations the particular arranging a second filter means and determining step, in combination with the rest of the limitations of **claim 72**.

Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. As for the previous rejection under 35 U.S.C. 101 due to the amendment to the claims, the rejection has been withdrawn.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent 5,686,731 to Wiles et al.

U.S. Patent 6,542,248 to Schwarz

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U.S. Patent 6,631,000 to Schwarz

U.S. Patent 6,842,250 to Schwarz

US 2005/00305042 to Schwarz

U.S. Patent 6,975,404 to Schwarz

U.S. Patent 7,006,229 to Sperling et al.

U.S. Patent 7,027,160 to Sperling

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and

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2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (571) 273-8300

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

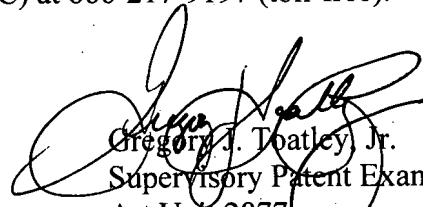
The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gs

October 14, 2007


Gregory J. Toatley, Jr.
Supervisory Patent Examiner
Art Unit 2877
10/15/07